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Determinants and Challenges of Social Security for Tea Estate Workers: A Systematic Literature Review

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ABSTRACT

This paper seeks to review literature systematically on the determinants and challenges of social security for tea estate workers in Sri Lanka. The study employs PRISMA guidelines, involving multiple stages of database searches, screening, and data extraction to ensure an unbiased and comprehensive representation of scholarly works. Out of 636 identified articles, a total of 82 relevant studies mainly published after 1990 were reviewed to provide insights into the challenges and determinants of social security for Tea Estate Workers in Sri Lanka. The findings highlight the key determinants of social security include income security, health security, family and child support, economic protection, justice, housing, education, and network assistance. The study identifies multiple challenges, including low wages, job insecurity, legal inefficiencies, cultural distrust, weak political commitment, technological limitations, and environmental vulnerabilities. Weak enforcement of labor laws, corruption, and poor awareness of social security schemes further limit access to benefits. Addressing these structural, institutional, and socio-economic challenges is crucial for ensuring equitable and sustainable social security for Sri Lankan tea estate workers in Sri Lanka.

Keywords: Challenges for Social Security, Determinants of Social Security, Social Security, Tea Estate Workers.

JEL Classification Numbers: G18; H55; P32

FOREWORD

Social security plays a vital role in safeguarding the well-being of workers, particularly those engaged in labor-intensive sectors such as the tea estate industry. In Sri Lanka, tea estate workers form a significant portion of the labor force, yet they often face socio-economic vulnerabilities that hinder their access to adequate social security provisions. Understanding the determinants and challenges of social security within this sector is essential for shaping policies that enhance worker welfare and promote sustainable labor practices.

This working paper, *Determinants and Challenges of Social Security for Tea Estate Workers: A Systematic Literature Review*, provides a comprehensive analysis of the existing academic discourse on the subject. By systematically reviewing the literature, the study identifies key factors influencing social security coverage among tea estate workers, explores the structural and policy-related constraints they encounter, and highlights areas requiring further research and policy intervention.

Produced as Working Paper 02 from the Department of Economics, University of Colombo, this study contributes valuable insights to the ongoing discussions on labor rights and social protection. It serves as a critical resource for researchers, policymakers, and stakeholders aiming to improve the livelihoods of estate workers and strengthen the social security framework in Sri Lanka. We commend the authors for their meticulous effort in compiling this review and believe that this paper will inspire further academic inquiry and policy reforms in these crucial areas.

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CONTENTS

1.1. Background.....	1
1.2. Research problem and objectives of the study	2
1.3. Significance of the study	6
2. Methodology.....	7
3.Results and Discussion.....	9
3.1. <i>Determinants of social security</i>	9
3.2 <i>Challenges for social security</i>	14
3.3. <i>Global perspective</i>	19
3.4 <i>Empirical literature</i>	21
3.5 <i>Contextual literature</i>	23
4. Conclusion.....	24

LIST OF TABLES:

Table 1 – Identified studies for review (PRIMA guided flow)	08
Table 2 - Conceptualization of Social Security	12
Table 3 – Conceptualization of challenges associated with social security	17

LIST OF FIGURES

Figure 1- Methodological flow	08
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LIST OF ABBREVIATIONS

Abbreviation	Definition
ADB	Asian Development Bank
EPF	Employees Provident Fund
ILO	International Labor Organization
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee
NGO	Nongovernmental Organization
NHIF	National Health Insurance Fund
NSSF	National Social Security Fund
PPP	Public Private Partnerships
SDG	Sustainable Development Goals
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization

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1.1. Background

Sri Lanka's tea plantation sector has historically been the backbone of the nation's economy, significantly contributing to export revenue and employment (World Bank, 2017). Despite the sector's importance, tea estate workers remain one of the most socio-economically vulnerable communities in the country (Kelegama, 2006). Their labor-intensive work, coupled with geographically isolated living conditions, has traditionally hampered access to healthcare, education, and other social welfare services (Jayathilaka, 2015). Moreover, the informal nature of their employment characterized by irregular contracts and limited legal safeguards frequently excludes them from formal social security schemes, such as contributory pension and social insurance programs (Department of Labor, 2021). A strong social protection system is crucial for reducing poverty and inequality, yet tea estate workers in Sri Lanka continue to face barriers stemming from historical marginalization and policy gaps (Perera, 2018). The current state of social security for tea estate workers in Sri Lanka is fraught with inadequacies and inconsistencies, severely impacting their socioeconomic stability (Jayatilleke & Fonseka, 2010).

Although workers in the tea plantation sector are technically eligible for benefits like the Employees' Provident Fund (EPF) and the Employees' Trust Fund (ETF), there are documented cases of plantation companies either failing to remit contributions or providing inconsistent support (ILO, 2016). This undermines the basic retirement and financial protections these workers rely on, leaving many without adequate resources upon retirement or during financial crises (ILO, 2016; Hettiarachchi & Epitawatta, 2018). Pension coverage is another area of concern, particularly as most existing pension schemes are contributory and do not accommodate informal sector workers, including those on tea estates. Many tea estate workers are unable to consistently contribute due to unstable incomes, leading to a lack of sustainable pension options that could support them through old age. This issue is compounded by the voluntary nature of informal social security schemes and the low participation rate, as workers often lack awareness and adequate government support (Gunetilleke et al., 2020; World Bank, 2015). Past governmental and non-

governmental interventions, while aimed at extending welfare coverage, often overlook the cultural and linguistic complexities unique to up-country Tamil communities, diminishing the effectiveness of these initiatives (Biyawila, 2010). Consequently, a significant proportion of estate laborers remain unprotected against common risks such as illness, injury, and old age insecurity (Jayathilaka, 2015). Recognizing these systemic shortcomings, recent dialogues among policymakers, researchers, and development organizations underscore the need for comprehensive and inclusive social security reforms (Department of Labor Sri Lanka, 2021; ILO, 2019; Kelegama, 2006).

However, the path to meaningful change requires an in-depth understanding of the historical, legal, institutional, and cultural factors that have shaped the current socio-economic realities of tea estate workers. Through a systematic literature review, this paper seeks to explore the determinants and challenges for social security of tea estate workers in Sri Lanka. By reviewing theoretical perspectives, empirical and contextual findings, this review aims to provide with the critical insights necessary to formulate a sustainable social security system that prioritizes the needs of tea estate workers in Sri Lanka. The paper is structured as follows: the next section presents the applied methodology, followed by the results and discussion, and concludes with the final remarks.

1.2. Research problem and objectives of the study

Tea estate workers in Sri Lanka form a highly marginalized group, facing significant socioeconomic challenges, limited access to social security, and exclusion from mainstream social welfare systems (Herath, 2015). Despite the vital role they play in Sri Lanka's economy, contributing to one of the country's largest export sectors, tea estate workers experience a variety of hardships (Herath, 2015). These include low wages, inadequate healthcare, poor living conditions, and limited opportunities for education and social mobility (De Silva & Punchihewa, 2011; Herath, 2008).

Tea estate workers often lack access to comprehensive social security schemes. Many tea estates offer only basic healthcare and housing services, which are inconsistent across plantations and often insufficient to meet worker needs (Hewamanne, 2020; ILO, 2021). Such limitations reveal gaps in social security, leaving workers vulnerable to financial and health risks (Hewamanne, 2020; ILO, 2021). Studies reveal that these minimal provisions fail to account for pension, unemployment benefits, or sufficient healthcare support, which are essential for workers' long-term security (De Silva & Punchihewa, 2011). Tea estate workers in Sri Lanka are among the poorest and most economically vulnerable communities (De Silva & Punchihewa, 2011). Due to low, irregular wages and limited alternative employment opportunities, workers are heavily dependent on estate management for welfare services, which are frequently reduced during

economic downturns (Jayawardena, 2000; Kuruppuge & Gregar, 2017). Without intervention, this economic insecurity worsens poverty and affects workers' ability to achieve a stable and productive livelihood (Herath, 2015; Jayatilleke & Fonseka, 2010).

Historically the estate workforce has been marginalized, with many workers excluding national social security and welfare programs. Estate managements are expected to address workers' social protection needs yet often lack the resources to provide comprehensive support (Hewamanne, 2020; ILO, 2021). The exclusion of estate workers from mainstream welfare initiatives perpetuates social and economic disparities, creating an urgent need to integrate these workers into national social protection systems (Siddiqi, 2017). Female estate workers, who comprise a large part of the workforce, face distinct social security challenges. Gender-specific vulnerabilities such as lack of maternity leave, healthcare, and protections from workplace discrimination are commonly cited issues (Herath, 2008; Hewamanne, 2020). Addressing these disparities requires a gender-sensitive social security framework to protect women and other vulnerable groups from exploitation and health risks (ILO, 2021).

Living conditions for tea estate workers are often substandard, characterized by inadequate housing, lack of clean water, and limited sanitation facilities (Jayatilleke & Fonseka, 2010). Studies indicate that these environments expose workers to increased health risks, which ultimately impact their economic productivity and social well-being (Jayatilleke & Fonseka, 2010). The lack of adequate state oversight in providing essential health and housing benefits underscores the importance of an inclusive social security framework for these communities (Muthukumaran, 2016). Many estate workers lack old-age security due to the absence of pensions or other retirement benefits. As workers age, their limited economic means prevent them from maintaining a stable livelihood, leading to heightened vulnerability (De Silva & Punchihewa, 2011; Herath, 2015). This condition underscores the need for social security reforms that provide sustainable support mechanisms for aging workers on plantations (ILO, 2021).

The current state of social security for tea estate workers in Sri Lanka is fraught with inadequacies and inconsistencies, severely impacting their socioeconomic stability (Jayatilleke & Fonseka, 2010). Although workers in the tea plantation sector are technically eligible for benefits like the Employees' Provident Fund (EPF) and the Employees' Trust Fund (ETF), there are documented cases of plantation companies either failing to remit contributions or providing inconsistent support (ILO, 2016). This undermines the basic retirement and financial protections these workers rely on, leaving many without adequate resources upon retirement or during financial crises (ILO, 2016; Hettiarachchi & Eritawatta, 2018). Pension coverage is another area of concern, particularly as most existing pension schemes are contributory and do not accommodate informal sector

workers, including those on tea estates. Many plantation workers are unable to consistently contribute due to unstable incomes, leading to a lack of sustainable pension options that could support them through old age. This issue is compounded by the voluntary nature of informal social security schemes and the low participation rate, as workers often lack awareness and adequate government support (Gunetilleke et al., 2020; World Bank, 2015).

Health and disability insurance, crucial elements of any robust social security framework, are also notably absent for tea estate workers (Jayatilleke & Fonseka, 2010). Limited access to health coverage leaves workers vulnerable to poverty due to medical costs or loss of income from injury or illness. Although there are limited welfare schemes, such as the Samurdhi program, these are often inadequately funded and poorly targeted, failing to meet the specific needs of tea estate workers (ILO, 2016; Hewamanne, 2020). The lack of a comprehensive, sustainable social security system tailored to the needs of tea estate workers exacerbates their vulnerability to economic instability and poverty. This situation, compounded by systemic neglect and financial insecurity, underscores the urgent need for a structured, inclusive social security model that effectively addresses these challenges (Kuruppuge & Gregar, 2017; Siddiqi, 2017). This gap in social security justifies the need for research into a new, responsive model that can provide long-term economic security and social inclusion for tea estate workers in Sri Lanka.

In Sri Lanka, social security programs targeting the informal sector, such as fishermen's and farmers' pension schemes, offer models of contributory schemes intended to address the unique economic risks faced by workers in these sectors (ILO, 2016). These schemes illustrate the government's efforts to create social safety nets for workers who are often excluded from traditional, formal employment benefits like pensions and health insurance (ILO, 2016). Fishermen's Pension Scheme, established in the 1990s, this scheme operates under the Fisheries Department and provides retirement benefits to registered fishermen (Fisheries Department, Government of Sri Lanka, 2018). It is a contributory scheme where both the government and fishermen make contributions, allowing members to receive a pension upon reaching the retirement age of 60 (Fisheries Department, Government of Sri Lanka, 2018). However, it has been reported that low contributions, irregular payments, and limited coverage remain challenges, impacting the effectiveness and sustainability of this pension scheme (World Bank, 2015; Fisheries Department, Government of Sri Lanka, 2018). The Farmers' Pension Scheme which was initiated by the Agricultural and Agrarian Insurance Board, this program provides a pension to registered farmers over the age of 60, provided they have made consistent contributions. Though it represents a step toward social security inclusion for agricultural workers, issues such as low participation, irregular contribution patterns, and limited awareness about the program are often noted. These issues reduce its efficacy, leaving many farmers without sufficient retirement income. The scheme

also experiences financial constraints, affecting its long-term sustainability (ILO, 2016; Agrarian Insurance Board, 2020). Both schemes demonstrate the government's recognition of the social security needs in the informal sector, but they also highlight challenges that would need to be addressed in any new social security program for tea estate workers. The limitations such as financial instability, limited coverage, and dependence on government support provide valuable insights and lessons for developing a more robust and inclusive model for tea estate workers. Addressing these issues within the tea estate context would require focusing on sustainable funding, awareness, and tailored support mechanisms to better meet workers' specific social and economic needs (Kuruppuge & Gregar, 2017; Siddiqi, 2017).

Despite global commitments to sustainable development goals (SDGs) specifically SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), SDG 8 (Decent Work), and SDG 10 (Reduced Inequalities) which aim to establish sustainable social security frameworks worldwide, Sri Lanka's tea estate workers remain inadequately supported by social security programs. This significant labor force, essential to the country's economy, faces persistent poverty, poor health conditions, and employment inequalities, underscoring a pressing gap in achieving national and global social security objectives. The absence of a targeted, social security initiative for tea estate workers not only contradicts SDG aspirations but also perpetuates social and economic disparities within this vulnerable community. This research seeks to explore the reasons for this gap and propose policy solutions to foster an inclusive social security model aligned with the inclusive environment for this marginalized group.

Addressing these gaps is crucial for enhancing the well-being and economic security of tea estate workers in Sri Lanka. The research can provide insights into how inclusive, equitable social security models can reduce poverty, enhance health, and provide economic stability for these vulnerable communities. Developing a targeted social security framework could pave the way for broader reforms, contributing to reducing inequality and promoting social inclusion in Sri Lanka's plantation sector. The primary goal of this research is to explore and develop a sustainable social security model tailored to the needs of tea estate workers in Sri Lanka within their inclusive environment. By addressing both economic vulnerabilities and social marginalization, this model aims to support the well-being, empowerment, and socio-economic mobility of these workers. Through a review of existing literature and a theoretical framework, this study seeks to offer practical recommendations for policymakers, thereby contributing to the development of a more equitable and inclusive social security system for one of Sri Lanka's most essential, yet marginalized, communities. The main objective of the literature review is to explore the determinants and challenges of social security for tea estate workers

1.3. Significance of the study

This study seeks to explore new and effective social security mechanisms specifically tailored for tea estate workers in Sri Lanka. By conducting a comprehensive literature review and a qualitative analysis involving multiple stakeholders, the research aims to identify gaps in the existing social security system and propose practical solutions. The study engages key stakeholders, including tea estate workers, estate management, trade unions, policymakers, and social security experts, to gain diverse perspectives on the challenges and opportunities in enhancing social protection. Unlike previous studies that mainly focus on broader labor welfare policies, this research prioritizes the unique needs of estate workers, ensuring that social security mechanisms are inclusive, sustainable, and adaptable to their socio-economic realities. The findings will contribute to policy recommendations that can improve the living and working conditions of plantation workers, offering them better income security, healthcare, housing, education, and protection from economic distress. This study, therefore, has both academic and practical significance, as it not only enriches the existing knowledge base but also helps shape meaningful policy interventions for a more equitable and inclusive social security system.

This research focuses on developing a new social security mechanism tailored for tea estate workers in Sri Lanka, who are among the most marginalized and vulnerable labor groups. They face economic insecurity, poor health conditions, and limited access to education and healthcare, yet existing social security systems fail to adequately cover them (Jayawardena, 2000; De Silva & Punchihewa, 2011). By analyzing current gaps and examining global best practices, this study aims to design an inclusive social security framework that ensures better income stability, healthcare, education, and overall welfare for estate workers.

The research also aligns global labor rights and social protection goals (ILO, 2021), contributing to policy discussions on how social security can reduce socio-economic disparities and promote fair labor rights. Additionally, it integrates theoretical perspectives such as social protection theory (Sen, 1999), social exclusion (Silver, 1994) and decent work principles to expand the academic understanding of social security in marginalized labor sectors (Herath, 2015; ILO, 2021). The study bridges policy and theory by offering contextualized recommendations that can inform national labor policies and serve as a regional model for improving social security in similar informal labor sectors (Siddiqi, 2017; Hewamanne, 2020). Ultimately, by empowering tea estate workers through enhanced social security, this research contributes to poverty reduction, economic resilience, and community development, supporting Sri Lanka's broader labor welfare and sustainable development objectives.

2. Methodology

The methodology included multiple stages, such as database searches, screening, and data extraction, ensuring a comprehensive and unbiased representation of scholarly works. A formal search protocol was designed to identify studies on contributory and non-contributory social security schemes, legal frameworks, and institutional challenges in the informal labor sector. Keyword identification was crucial, guided by existing scholarship and policy documents. Key terms included “tea estate workers,” “plantation sector,” “social security,” “determinants of social security,” “informal sector labor,” “marginalized labor,” and “challenges for social security.” Academic databases such as Google Scholar, ResearchGate, and Open Alex were searched to ensure a broad coverage of peer-reviewed journal articles, conference proceedings, and institutional reports. The search timeframe mainly spanned from the early 1990s to the present, allowing for an analysis of historical developments and contemporary reforms aimed at inclusivity. Additionally, grey literature from government publications, NGO reports, and policy briefs (ex: Department of Labor Sri Lanka, 2021) was included to incorporate practical insights into the review.

Inclusion and exclusion criteria were carefully established to maintain a strong focus on tea estate workers and social security. Studies were included if they; focused on welfare, labor rights, or social protection in Sri Lanka, contained direct or comparative references to plantation or estate workers, and discussed aspects of inclusion or marginalization (Jayathilaka, 2015). Articles that addressed different regional contexts without a clear link to Sri Lanka were excluded unless they offered transferable insights relevant to plantation labor. Duplicate records were removed, followed by a title and abstract screening to verify thematic alignment. Full-text reviews were then undertaken to confirm methodological rigor and relevance to the research questions. After applying the screening criteria, the number of research papers identified was as follows; records identified through database searching were 636, and records excluded after title and abstract screening were 214 as shown in table 1.

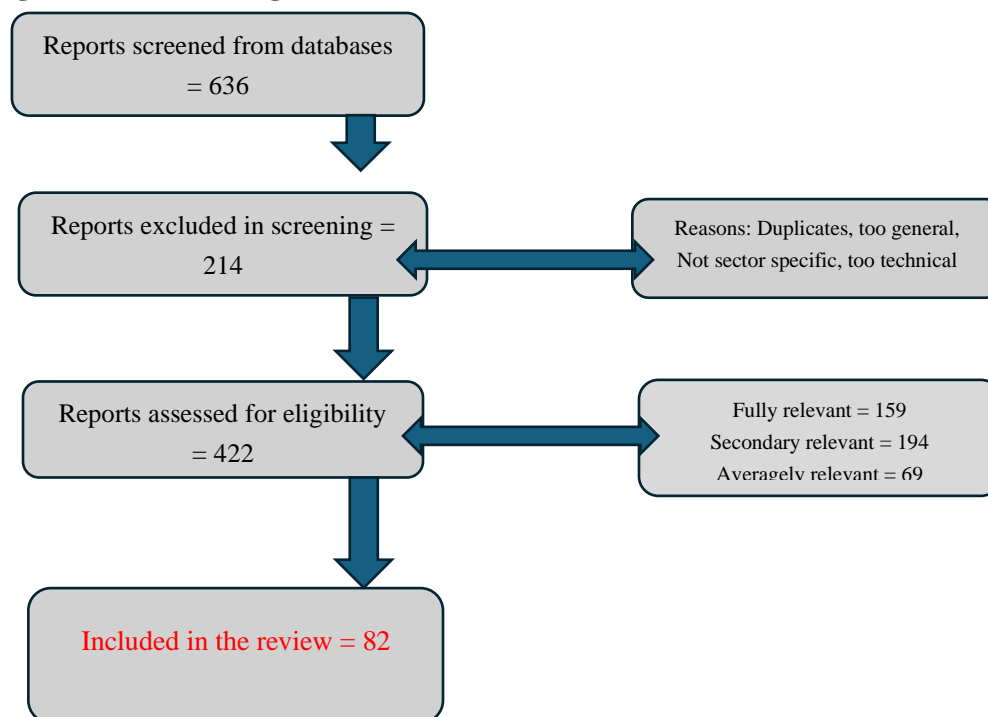
The remaining 422 articles underwent abstract and full-text reviews to ensure alignment with research objectives. A structured template was used for data extraction, capturing the year of publication, methodology, key findings, and policy recommendations (Lakshman, 1997). Special attention was given to identifying dominant social security determinants and major obstacles in accessing welfare benefits among tea estate workers. At this stage, articles that did not provide sufficient empirical data, lacked peer review, or did not specifically address the plantation labor sector were removed. The eligibility process led to the following results. Reports assessed for eligibility were 422, while abstract and full-text articles excluded due to duplication, irrelevance,

insufficient data, or non-peer-reviewed status were 214. Following the final selection process, 82 studies were included in the systematic review. These studies were subjected to detailed qualitative and thematic analysis to extract overarching trends in social security provisions for tea estate workers.

Table 1: Identified Studies for Review (Based on PRISMA Guided Flow)

Phases	Number of Research Papers
Identification (Records identified through database searching)	636
Screening (Records excluded after title and abstract screening)	214
Eligibility (Reports assessed for eligibility)	422
Inclusion (Studies included in quantitative synthesis)	82

Figure 1: Methodological flow



To facilitate a structured synthesis of findings, an Excel research database was created to store bibliographic details, research focus, and key findings. The database enabled comparative analysis, spotting gaps, and streamlining the review process. As per the appendices fields included author(s), year, methodology, contributory schemes, legal frameworks, and cultural barriers. Additional columns recorded geographical settings, theoretical underpinnings (ex: social justice, social exclusion, human rights perspectives), and policy recommendations. Beyond categorization, thematic coding was implemented to highlight recurring determinants and challenges. For

example, studies emphasizing language barriers and lack of documentation as obstacles to social security access were coded accordingly. Similarly, findings related to housing inadequacies or labor law enforcement failures were tagged under specific themes. This structured approach allowed the identification of broad trends and systemic barriers affecting plantation workers' social security.

With the literature systematically identified, screened, and organized, thematic analysis was the next step. This process extended beyond describing individual studies to extracting overarching patterns relevant to social security for tea estate workers in Sri Lanka. Many studies emphasized how language barriers, low literacy levels, and entrenched social norms influenced workers' ability to access welfare programs. Up-country Tamil communities often faced administrative hurdles due to Sinhala-dominated bureaucratic processes, deterring them from enrolling in social security schemes. The historical development of the plantation sector resulted in estate workers having limited influence on national policymaking (Biyawila, 2010). As a result, social security programs often failed to adequately reach this labor group unless culturally sensitive outreach and communication strategies were employed (Department of Labor Sri Lanka, 2021). By synthesizing these insights, the study contributes to understanding the systemic barriers in delivering effective social security for tea estate workers. Moreover, it highlights the potential for inclusive, worker-centric policy frameworks that address historical inequities and socio-cultural constraints.

3.Results and Discussion

3.1. Determinants of social security

Social security is a multi-dimensional concept, and various scholars and organizations have defined it differently based on the scope of their study, the socioeconomic contexts, and policy frameworks they emphasize. The International Labor Organization (ILO) defines social security as a set of public measures designed to protect individuals from economic and social distress caused by unemployment, illness, disability, old age, and other life risks (ILO, 2001). The ILO emphasizes universal access to social security as a fundamental human right, linking it directly to socio-economic stability and inclusive development. World Bank views social security more from a risk management perspective, defining it as systems aimed at protecting individuals and families from economic risks that lead to income loss, such as aging, health issues, and unemployment (World Bank, 2016). Here, the focus is on financial resilience and supporting labor market participation. The United Nations (UN) takes a broader approach, defining social security as part of a wider social protection system, which includes not only social insurance, but also non-contributory schemes aimed at alleviating poverty and vulnerability (UN, 2015). This definition highlights the role of social security in promoting equitable access to resources and reducing

income disparities. These definitions reflect the diverse perspectives on social security, ranging from risk management and poverty alleviation to income redistribution and rights-based approaches. Together, they underscore the importance of adaptability and inclusion within social security systems to address the varying needs across different populations. The definitions provided emphasize that social security is fundamentally a government system designed to offer financial support to individuals with insufficient or no income. These systems aim to ensure economic stability and welfare through measures such as retirement income, disability benefits, and support for survivors. The study and the literature give the understanding of social security as it serves as a safety net to protect individuals and families from economic hardship due to various life circumstances, ensuring a minimum standard of living and reducing poverty and inequality. Social security is a comprehensive system designed to provide economic and social protection to individuals and households against various risks and life events that can lead to financial hardship. It ensures access to necessary services and financial assistance, thereby promoting social and economic justice.

There is no single comprehensive theory that fully explains social security and its diverse dimensions. Instead, social security is understood through the application of multiple related theories that provide insights into its various aspects. Theories such as Social Protection Theory (Sen, 1999) offer foundational principles for understanding the role of social safety nets, while the Human Capital Theory (Becker, 1964) emphasizes the importance of empowering individuals to achieve socio-economic well-being. Similarly, Social Justice Theory (Rawls, 1971) addresses the equitable distribution of resources and opportunities, and the Labor Market Segmentation Theory (Piore, 1971) highlights the structural inequalities that impact access to social security for marginalized workers as mentioned below. Life-Cycle theory (Modigliani & Brumberg, 1954), human capital theory and marginalization and social exclusion theory (Silver, 1994) are also discussed and these theories, individually and collectively, contribute to a deeper understanding of social security by focusing on its specific dimensions, such as income security, health protection, and social and economic justice, which are reviewed in detail in this section. This multi-theoretical approach underscores the complexity of social security systems and the need for context-specific frameworks to address the unique challenges faced by vulnerable groups like tea estate workers. These theories provide a rich framework for understanding the multi-dimensional aspects of social security, highlighting the importance of social inclusion, protection against economic risks, and investment in human capital. Each theory also underscores the need for policy interventions tailored to the diverse socio-economic realities of workers in vulnerable sectors, such as Sri Lanka's tea estate labor force.

While each of the above theories has its own specific focus, there are overlapping themes and dimensions that collectively illuminate how societies address inequality, vulnerability, and the distribution of resources. Table 2 shows an integrative overview of six key theoretical frameworks that were discussed earlier, Social Protection Theory, Human Capital Theory, Labor Market Segmentation Theory, Marginalization and Social Exclusion Theory, Life Cycle Theory, and Social Justice Theory. Social Protection Theory examines how policies such as pensions, unemployment benefits, and cash transfers shield individuals from poverty, vulnerability, and social risks. It addresses key dimensions like risk and vulnerability, redistributive mechanisms, and the distinction between protective (short-term relief) and promotional (long-term empowerment) interventions (Devereux & Sabates-Wheeler, 2004; ILO, 2019).

Human Capital Theory suggests that investing in education, training, and health enhances productivity and earnings, benefiting both individuals and society. It emphasizes skills investment, productivity, and merit-based labor market outcomes (Becker, 1964; Schultz, 1961). Labor Market Segmentation Theory, however, argues that labor markets are divided into primary (stable, high-paying jobs) and secondary (unstable, low-paying) sectors, limiting mobility due to institutional barriers, discrimination, and structural constraints (Doeringer & Piore, 1971; Reich et al., 1973). Marginalization and Social Exclusion Theories highlight how certain groups (ethnic minorities, women, migrants) are pushed to the edges of economic and social life due to institutional racism, sexism, and intersectionality (Silver, 1994; Lister, 2004). Life Cycle Theory explains how individuals manage savings and consumption over their lifetime to ensure financial security in retirement (Modigliani & Brumberg, 1954). Social Justice Theory focuses on fairness in resource distribution, recognition, and procedural rights (Rawls, 1971; Fraser, 1997).

Income security Income security is a vital aspect of social security, ensuring individuals and families have sufficient income to meet basic needs during periods of unemployment, retirement, disability, or other life events. It includes pensions for the elderly, unemployment benefits, disability support, family allowances, and social assistance for low-income households. These measures provide financial stability and prevent poverty, promoting a decent standard of living. Income security safeguards economic well-being by mitigating income loss risks through structured policies and financial assistance programs (United Nations, 2012).

Table 2: Conceptualization of Social Security

Dimensions	Attributes	Adopted by
Income security	Income support, Income protection schemes, Availability of unemployment benefits, Availability of pension schemes.	Jayawardena (2000), Herath (2015), Siddiqi (2017), De Silva & Punchihewa (2011), Gunetilleke et al. (2008), Jayawardena (2010)
Health security	Sick leave benefits, Out-of-pocket expenses, Health insurance coverage	Jayatileke & Fonseka (2010), World Health Organization (2008), Marmot (2005)
Family and child support	Child benefits coverage, Maternity / paternity leave, Childcare assistance, Access to social assistance	Milligan & Stabile (2009), Blau & Currie (2006), Tekin (2007), Kamerman & Kahn (2001)
Protection against economic and social distress	Disability benefit coverage, Level of disability benefits, Employment support for disabled workers, Coverage/adequacy/duration of survivor benefits	Perera & Wickramasinghe (2016), Gunetilleke (2005), Hettige (1992), Finkelstein & McKnight (2008), Schmieder, Wachter & Bender (2012)
Social and economic justice	Workplace injury coverage, Compensation for work-related injuries, Rehabilitation services, Support for elderly care	Kuruppuge & Gregar (2017), De Silva & Athukorala (2011), World Bank (2005)
Housing and education	Affordable housing/education, Rental subsidies, Educational scholarships	Herath (2008), Muthukumaran (2016), Ramakrishnan (2000), United Nations (1991)
Network assistance	Ability to take assistance from family, relations, friends and other supportive networks (bonding and bridging, network size, density, strength)	Hewamanne (2020), World Bank (2019)

Source: Compiled by the author, 2025

Healthcare: Healthcare, as a key aspect of social security, ensures access to medical services for maintaining and improving health. It includes preventive care (ex: vaccinations), primary care (ex: doctor visits), specialized treatments (ex: hospital care), rehabilitative services, and mental health support. Effective healthcare enhances well-being, economic productivity, and social equity. However, challenges like financing, accessibility, and integration must be addressed for sustainable and efficient healthcare systems.

Family and child support: Family and child support are key components of social security systems, offering financial aid, childcare, health, and educational support to families, especially those with children. These programs help reduce financial burdens, promote child development, and improve living standards. The United Nations (1989) defines them as measures providing aid and social services to enhance family well-being. However, challenges like benefit adequacy, accessibility, and service integration must be addressed to ensure their effectiveness and broader reach.

Protection against economic and social distress: Protection against economic and social distress is a key aspect of social security, ensuring economic stability through safety nets during crises (Barr, 2012). Access to healthcare, education, and income support enhances human development and economic opportunities (Sen, 1999). These measures promote social cohesion and poverty alleviation. However, challenges such as coverage gaps, benefit adequacy, and sustainability must be addressed to improve the effectiveness and reach of social protection systems in fostering long-term economic resilience.

Social and Economic Justice: Social security serves as a tool for promoting social and economic justice, ensuring vulnerable populations have access to necessities and fostering a fairer society. Social justice focuses on equitable wealth distribution, opportunities, and privileges (Rawls, 1971), while economic justice ensures fair access to resources and shared economic benefits (Sen, 1999). The UN (2015) emphasizes equity for marginalized groups, and the ILO (2008) highlights fair labor practices and decent work as essential for achieving social justice.

Housing: Housing is defined as, "Adequate housing means more than just a roof over one's head. It includes adequate privacy, space, physical accessibility, security, adequate lighting and ventilation, basic infrastructure, such as water-supply, sanitation and waste-management facilities, and suitable environmental quality and health-related factors." (United Nations, 1991). "Housing security refers to access to safe, affordable, and decent housing which meets the basic needs of individuals and families." (World Bank, 2015). Housing as a dimension of social security aims to ensure that individuals and families have access to safe, affordable, and adequate housing. This covers areas such as public housing programs or Government-provided housing options for low-income individuals, financial assistance to help cover the cost of rent, support services for individuals facing homelessness or housing insecurity, policies to ensure housing meets safety, health, and accessibility standards, community development programs: Initiatives to improve housing conditions and neighborhood environments.

Education: Education is a fundamental human right that empowers individuals, fosters economic growth, and promotes social cohesion (UNESCO, 2015; World Bank, 2018). As a dimension of

social security, it ensures access to primary, secondary, and higher education, vocational training, and lifelong learning. It includes subsidies, scholarships, and skill development programs, enabling individuals to complete basic education, pursue higher learning, and enhance employability through vocational training.

Worker Rights and Representation: Worker rights and representation encompass fundamental labor protections, including freedom of association, collective bargaining, and protection from exploitation (ILO, 1998; UN, 1948). These rights ensure fair treatment, safe working conditions, and fair wages. Key aspects include trade unions, occupational health and safety, and social dialogue, which facilitate communication between employers, workers, and governments to improve labor conditions and uphold dignity and fairness in the workplace.

These dimensions of social security provide a comprehensive framework for understanding how different forms of support contribute to the well-being and security of individuals and families in society. Each dimension addresses specific needs and risks, ensuring a holistic approach to social protection. Social security is a diverse system designed to provide financial and social protection to individuals and households against a wide array of risks and life events that can disrupt their economic stability. It includes measures to ensure income security, access to health care, family and child support, and protection against social and economic distress. By offering a safety net, social security promotes social and economic justice, aiming to prevent poverty, reduce inequalities, and enhance the overall well-being of society.

3.2 Challenges for social security

Implementing social security within an inclusive environment presents complex challenges stemming from systemic inequalities, institutional inefficiencies, resource constraints, and socio-cultural barriers. For marginalized groups, such as tea estate workers in Sri Lanka, economic vulnerabilities, social exclusion, and weak institutional frameworks limit their access to social security benefits. Theoretical frameworks such as systems theory, social justice theory, and social inclusion theory provide valuable insights into these challenges. This review aims to identify the underlying barriers and propose strategies for a more inclusive and equitable social security system.

Systems Theory (Bertalanffy, 1968) views social security as an interconnected system comprising labor markets, welfare institutions, and individual behaviors. Weak coordination among these subsystems leads to gaps in service delivery. For instance, fragmented policies and weak linkages between employers and social welfare agencies hinder tea estate workers' access to benefits. A holistic approach is essential to ensure system-wide alignment for effective implementation. Equity Theory (Adams, 1963) emphasizes fairness in resource distribution. Marginalized groups,

such as tea estate workers, often perceive social security benefits as inequitable compared to formal sector employees. Limited access to pensions, healthcare, and housing support fosters dissatisfaction and exclusion. Ensuring equitable benefit allocation is crucial to overcoming these psychological and structural barriers. Institutional Theory (Scott, 1995) explores how institutions shape social systems. Weak legal frameworks and inconsistent policies contribute to inefficient social security implementation. The Sri Lankan plantation sector, for example, suffers from poor enforcement and regulatory oversight, leaving tea estate workers vulnerable. Strengthening institutional structures is key to improving policy enforcement and accessibility.

Tea estate workers earn below the national average wage, making participation in contributory social security schemes difficult. High poverty and underemployment levels necessitate non-contributory support programs (Jayawardena, 2000; World Bank, 2019). Sri Lanka's legal framework, such as the Employees' Provident Fund (EPF) and Employees' Trust Fund (ETF), primarily serves the formal sector, leaving estate workers inadequately covered (De Silva & Punchihewa, 2011; ILO, 2016). Institutional inefficiencies further delay benefits, reduce awareness, and create inconsistencies in implementation (Gunetilleke et al., 2008; Perera & Wickramasinghe, 2016). Fragmented policies and stakeholder misalignment hinder an inclusive approach, while corruption and bureaucratic inertia undermine trust in social security systems.

An inclusive environment ensures equal access to resources and opportunities regardless of socioeconomic background, ethnicity, or physical ability (UNESCO, 2005). The World Health Organization (WHO, 2011) highlights inclusivity in healthcare access, while social policy perspectives focus on eliminating structural inequalities (Silver, 1994). To achieve this, multiple theoretical perspectives contribute to understanding inclusivity within social security frameworks.

Social Justice Theory (Rawls, 1971) Emphasizes equity, fairness, and access to rights in social security systems, advocates for redistributive policies that ensure marginalized groups receive necessary resources, and supports fair wages, housing, and healthcare for tea estate workers (Gewirtz, 1998; Rawls, 1971). Social Determinants of Health Theory (Marmot, 2005) highlights how economic stability, healthcare, and education influence workers' well-being, and addresses health disparities in tea estates and promotes better living conditions (WHO, 2011). Capabilities Approach (Sen, 1999) focuses on individual freedoms, opportunities, and well-being and ensures workers can achieve economic mobility and access essential services (Nussbaum, 2000; Sen, 1999). Social Inclusion Theory (Silver, 1994; Lister, 2004) addresses barriers preventing marginalized groups from fully participating in economic and social life and supports equal workforce participation and legal representation. Bronfenbrenner's Ecological Systems Theory (1979) examines how external factors (labor laws, employer policies) shape workers' lives, and

highlights macro-level policies' influence on micro-level conditions in tea estates. Intersectionality Theory (Crenshaw, 1989) explains how multiple social identities (class, gender, ethnicity) influence exclusion and demonstrates why women tea workers face compounded disadvantages in social security access. Human Rights Framework (UDHR, 1948) advocates universal access to essential services such as healthcare, fair wages, and social protection and emphasizes legal enforcement and monitoring mechanisms to protect vulnerable workers.

No single theory fully captures the complexity of an inclusive social security environment. Instead, a combination of social, economic, institutional, and legal perspectives provides a more comprehensive understanding. Addressing the challenges faced by tea estate workers requires policy reforms, strengthened institutions, and economic empowerment strategies. By applying these theoretical insights, policymakers can develop an equitable, inclusive, and sustainable social security framework that ensures fair participation and protection for marginalized workers.

The implementation of social security within an inclusive environment is critical for ensuring the well-being and sustainability of marginalized communities, such as tea estate workers in Sri Lanka. Despite the significant contribution of tea plantations to the national economy, the workers in this sector often face a range of interrelated challenges that hinder their access to adequate social protection. These challenges stem from a combination of socioeconomic inequalities, institutional inefficiencies, cultural barriers, and environmental vulnerabilities, which exacerbate their precarious living and working conditions. Addressing these multifaceted challenges requires a comprehensive understanding of the barriers that limit the effectiveness of social security systems and their integration within an inclusive environment. By examining these challenges, this study aims to identify pathways for designing a responsive and equitable social security framework tailored to the unique needs of tea estate workers.

Table 3: Conceptualization of Challenges Associated with Social Security

Dimensions	Attributes	Adopted by
Socio-economic challenges	Wages and compensation, Living conditions, Education and skill development, Healthcare access, Employment stability	Herath (2008), Herath (2015), Jayatilleke & Fonseka (2010), Gunetilleke, et al. (2008)
Legal challenges	Labor rights and protection, Social security laws, Occupational health and safety regulations, Access to legal support	Perera & Wickramasinghe (2016), Kodikara & Munasinghe (2017), World Bank (2019)
Institutional challenges	Government policies and programs, Role of trade unions, NGO support and civil society, Employer support and accountability	Kuruppuge & Gregar (2017), ILO (2016), World Bank (2012)
Cultural challenges	Cultural identity and heritage, Gender equality and inclusion, social inclusion.	Perera (2018), Hewamanne (2020), Hollup (1994)
Political challenges	Political representation, Advocacy and policy influence.	Gunetilleke, et al. (2008), Kurian (1982), Hettige (1992)
Technological challenges	Access to technology, Digital literacy.	United Nations (2015), Shonkoff & Phillips (2000)
Social challenges	Family and community support, Public-private partnership, Local economic development.	Hewamanne (2020), Chandrabose & Sivapragasam (2008), World Bank (2019)
Educational challenges	Access to primary and secondary education, adult education.	Herath (2008), Ramakrishnan (2000), Milligan & Stabile (2009)
Natural environmental challenges	Sustainable work practices, Environmental health, Housing and surrounding environment.	United Nations (1991), Muthukumaran (2016)

Source: compiled by the author

Socioeconomic disparities significantly impact the implementation of social security in the tea estate sector. Workers face low wages, irregular income, and a lack of savings, leaving them vulnerable to economic shocks and crises (Herath, 2015; Siddiqi, 2017). These conditions create a cycle of poverty, making it difficult for workers to contribute to or benefit from social security

schemes. Additionally, limited access to affordable healthcare, housing, and education exacerbates their marginalization, further hindering their ability to break free from poverty. The socioeconomic gaps between plantation workers and the broader population highlights the pressing need for targeted social security interventions (ILO, 2016; UNICEF, 2023). The absence of comprehensive legal frameworks to include informal workers like tea estate laborers in social security systems is a significant barrier. While formal sector employees benefit from well-defined schemes like the EPF and ETF, informal workers often lack legal recognition and protection (De Silva & Punchihewa, 2011). This legal void leads to the exclusion of a significant portion of the workforce from retirement benefits, health insurance, and other protections. Furthermore, enforcement of existing labor laws is often weak in the plantation sector, leaving workers vulnerable to exploitation and economic insecurity (ILO, 2021). Institutional inefficiencies, including weak governance and lack of coordination among implementing agencies, hinder the effective delivery of social security programs. The fragmented nature of social protection policies in Sri Lanka often leads to duplication of efforts and inefficient resource allocation (Gunetilleke et al., 2008). Plantation regions frequently suffer from a lack of trained personnel and infrastructure to administer social security benefits, resulting in significant delays and inconsistencies. This institutional incapacity discourages workers from accessing available benefits, further marginalizing them (ADB, 2020).

Cultural norms and social practices in the plantation sector often create barriers to equitable access to social security benefits. Issues such as gender discrimination, caste-based biases, and entrenched hierarchies limit workers' ability to claim their entitlements (Hewamanne, 2020). For instance, female workers, who make up a significant share of the plantation workforce, frequently face challenges in accessing maternity benefits and other gender-specific protections. Cultural stigmas associated with seeking external support further discourage workers from utilizing social security schemes, perpetuating cycles of dependency and exclusion (UNICEF, 2023). The tea plantation sector is highly vulnerable to environmental risks such as climate change, extreme weather events, and soil degradation. These factors directly affect the economic stability of the sector, reducing income levels and job security for workers (World Bank, 2021). Additionally, the financial strain on employers due to reduced productivity often limits their ability to contribute to worker welfare schemes. The unpredictability of environmental factors underscores the importance of designing adaptive and resilient social security mechanisms (ADB, 2020). Political instability and inconsistent policymaking often disrupt the implementation of long-term social security strategies. Frequent changes in government priorities and limited political commitment to addressing the needs of marginalized groups like tea estate workers hinder the effectiveness of social security interventions (De Silva, 2009). Additionally, the plantation sector's political landscape, influenced

by powerful estate owners, often prioritizes the interests of employers over workers, further marginalizing this vulnerable community (ILO, 2016). The lack of advocacy and representation for tea estate workers in policy discussions exacerbates this challenge.

The digital divide in rural plantation areas significantly affects the delivery of social security benefits. Limited access to digital infrastructure, such as internet connectivity and mobile services, prevents workers from registering for or accessing social security programs (ADB, 2020). Moreover, low levels of digital literacy among tea estate workers hinder their ability to use modern systems for benefit disbursement, such as electronic payments. This technological gap creates inefficiencies in service delivery and reduces the reach of social protection initiatives (ILO, 2021). Low educational attainment among tea estate workers and their families poses a significant challenge to social security implementation. Many workers lack awareness of their rights and entitlements under social security programs (Herath, 2008). This lack of knowledge prevents them from navigating complex bureaucratic processes to claim benefits. Furthermore, limited investment in education and skill development perpetuates dependency on low-paying jobs, reducing the socioeconomic mobility of plantation workers (UNESCO, 2005). Improving educational access and awareness is crucial for empowering workers to participate in and benefit from social security systems. The social isolation of plantation communities from mainstream society creates barriers to their inclusion in broader social security systems. Historically marginalized, these communities face discrimination and exclusion that limits their access to economic and social opportunities (Hollup, 1994). This isolation also weakens their collective bargaining power, making it difficult for them to advocate for improved working conditions and social protections. Addressing this challenge requires efforts to integrate plantation workers into mainstream social and economic systems through targeted policies and initiatives (Chandrabose & Sivapragasam, 2008).

3.3. Global perspective

A comparative analysis of social security systems in plantation economies, such as India, Kenya, and Bangladesh, provides a valuable perspective for Sri Lanka. These countries, like Sri Lanka, have large plantation-based labor forces that historically faced economic exploitation, low wages, and lack of formal social protection. By examining their approaches to social security, Sri Lanka can identify best practices and policy innovations that could improve protections for tea estate workers.

In India, the Plantation Labour Act of 1951 is the primary law governing the welfare of plantation workers. This legislation mandates housing, medical facilities, education, clean drinking water, maternity benefits, and social security measures for workers (Government of India, 1951).

Additionally, India has established the Employees' Provident Fund (EPF) and Employees' State Insurance (ESI) to provide retirement and healthcare benefits to formal sector workers. However, challenges persist. Informal workers, who make up a significant portion of the labor force in tea estates, struggle to access benefits due to poor implementation and weak enforcement of labor laws (Bhowmik, 2011). Trade unions play a crucial role in negotiating better wages and working conditions, but marginalized groups, particularly women and migrant workers, remain vulnerable due to limited awareness and bureaucratic hurdles (Sarkar, 2020). Despite these challenges, India's EPF model and labor union structures provide lessons for Sri Lanka, particularly in improving access to social security contributions and healthcare services for plantation workers.

Kenya has taken notable steps to extend social security to informal and agricultural workers. The National Social Security Fund (NSSF) is a key scheme designed to provide retirement, invalidity, and survivor benefits for all workers, including those in plantations. The National Health Insurance Fund (NHIF) has also played a crucial role in expanding healthcare access to workers, including those in rural agricultural sectors (ILO, 2019). However, enforcement gaps persist. Many small-scale plantations do not comply with mandatory social security contributions, and informal laborers struggle with inconsistent wages and lack of documentation required for registration in the NSSF (Munene & Omolo, 2017). Moreover, seasonal employment patterns in plantations lead to irregular contributions, affecting the effectiveness of these schemes. Kenya's NHIF model could be useful for Sri Lanka, where healthcare access remains a critical issue for estate workers. Implementing subsidized health insurance or expanding state-funded medical coverage to informal workers could enhance health security in the Sri Lankan tea sector.

Bangladesh's plantation sector, particularly its tea industry, shares similar challenges with Sri Lanka. The Bangladesh Labour Act of 2006 outlines basic social protection provisions, including minimum wages, paid leave, maternity benefits, and compensation for workplace injuries (Rahman & Chowdhury, 2021). However, only a small portion of plantation workers are formally covered, with many excluded from pensions and social safety nets. Tea plantation workers in Bangladesh face high levels of poverty and poor working conditions, with restricted access to healthcare and social assistance. While NGOs and labor unions have made some progress in advocating for workers' rights, the government's enforcement mechanisms remain weak (Ahmed & Islam, 2019). The seasonal nature of plantation work, coupled with landlord-driven labor systems, limits social mobility for workers. One key lesson from Bangladesh is the role of public-private partnerships (PPPs) in delivering social protection. Some initiatives have introduced community-based health insurance programs and microfinance-backed pension schemes to supplement government efforts (Kabir, 2020). Sri Lanka could benefit from exploring similar approaches, especially by integrating microinsurance schemes tailored for estate workers.

There are quite a few policy lessons for Sri Lanka's social security that could be gained from these three countries such as strengthening legal enforcement can be learnt from India where Sri Lanka can enhance labor protections by ensuring better enforcement of existing social security laws and extending EPF/ETF coverage to informal plantation workers. Expanding Health Insurance for Plantation workers can be a good lesson from Kenya where Sri Lanka could introduce a subsidized healthcare scheme modeled after Kenya's NHIF, ensuring plantation workers have access to medical care regardless of employment status. Also, Leveraging Public-Private Partnerships for social protection is a key learning from Bangladesh as Sri Lanka can collaborate with NGOs and microfinance institutions to establish community-driven social security programs, especially for healthcare and pensions. A comparative perspective on plantation labor social security in India, Kenya, and Bangladesh reveals common challenges such as informality, weak enforcement, and exclusion from mainstream benefits. However, these countries have experimented with policy solutions that could inform Sri Lanka's approach to expanding social security for tea estate workers. By adapting and localizing best practices, Sri Lanka can work towards a more inclusive and sustainable social protection system for its plantation labor force.

3.4 Empirical literature

The empirical literature on social security and inclusive environments also highlights a wide range of studies that explore the conditions, challenges, and possible frameworks for social security systems, particularly in marginalized sectors like tea estate workers in Sri Lanka. focus on informal sector workers such as tea estate laborers. Gunetilleke et al. (2008) explored the gaps in social security for tea estate workers in Sri Lanka, highlighting the limited reach of existing programs such as the Employees' Provident Fund (EPF) and Employees' Trust Fund (ETF). The study emphasized that these programs often exclude informal sector workers due to lack of formal employment contracts and administrative inefficiencies (Siddiqi (2017) provided insights into the social protection challenges faced by tea estate workers in India and Sri Lanka. The study noted that contributory schemes like EPF are often inaccessible to workers earning below the poverty line, and non-contributory programs remain underfunded and fragmented. These studies underline the lack of comprehensive social protection mechanisms for marginalized workers, demonstrating the need for targeted interventions. The socioeconomic environment of tea estate workers has been a critical area of empirical exploration. Herath (2015) examined the socioeconomic status and quality of life of tea plantation workers in Sri Lanka, finding that low wages, poor housing, and inadequate healthcare significantly impact their well-being. The study emphasized the need for multidimensional social security mechanisms that address income, housing, and healthcare needs. Jayatilleke & Fonseka (2010) investigated the health conditions of tea estate workers, pointing out that poor living conditions and limited access to healthcare exacerbate their vulnerability to chronic

illnesses. Muthukumaran (2016) analyzed the housing conditions of tea estate workers, showing that overcrowded and dilapidated housing with limited access to basic amenities like water and electricity undermines their overall quality of life. These studies provide empirical evidence of the direct link between poor socioeconomic conditions and the need for effective social security systems.

The study by Gunetilleke (2005) focuses on the gaps in social protection for informal workers in Sri Lanka, particularly in plantation settings. It highlights that while public-sector employees benefit from robust social security mechanisms, informal workers like tea estate laborers remain marginalized. This study emphasizes the lack of integration between formal and informal social security systems, which exacerbates social inequalities in access to benefits such as pensions, healthcare, and unemployment insurance. De Silva et al. (2012) investigates the impact of poverty on accessing social security programs in Sri Lanka, specifically within marginalized communities such as tea estates. Their findings show that economic vulnerabilities, coupled with poor implementation of social protection schemes, leave workers unable to secure their basic rights, further highlighting the need for tailored interventions targeting the informal sector. Research by Kuruppuge & Gregar (2017) underscores the significance of community engagement in mitigating the challenges of inadequate formal social security. Their study shows that worker representation and cooperative models within plantations play a vital role in providing informal safety nets, bridging gaps left by formal systems. ILO (2021) and World Bank (2015) provide comparative insights into social protection systems in other developing economies. These studies reveal successful examples of inclusive social protection models, such as India's Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and Kenya's cash transfer programs for informal workers. They argue that localized adaptations of these models could be effective in Sri Lanka's plantation sector. The work of Hollup (1994) and Chandrabose & Sivapragasam (2008) examines the intersection of cultural identity and labor practices in Sri Lankan tea estates. Their studies find that caste-based discrimination and systemic exclusion have left tea estate workers particularly vulnerable to socio-economic disparities. These findings reinforce the importance of cultural inclusivity in designing effective social security systems. The World Bank (2019) explores the role of technology in expanding social security coverage in rural areas. It finds that technological solutions such as mobile-based applications and biometric identification systems can significantly enhance access to benefits, provided there is adequate digital literacy among the target populations. The empirical literature demonstrates that tea estate workers in Sri Lanka face systemic barriers in accessing social security, rooted in socioeconomic, cultural, and institutional challenges. While global studies provide valuable lessons, localized interventions are necessary to address the unique needs of this marginalized community. By bridging empirical gaps and

integrating multidimensional approaches, the research can contribute to the development of a comprehensive social security framework that promotes inclusivity and equity for tea estate workers.

3.5 Contextual literature

Tea estate workers, who predominantly belong to the Indian Tamil ethnic group, have historically faced social exclusion and economic marginalization. Their economic vulnerabilities are compounded by limited access to formal social security schemes and insufficient political representation (Kurian, 1982). Despite their substantial contribution to the tea industry, which remains a key pillar of Sri Lanka's economy, estate workers continue to experience low wages, poor housing conditions, and inadequate healthcare facilities (Muthukumaran, 2016; Perera & Wickramasinghe, 2016). Studies have indicated that estate workers have limited awareness of their legal rights and social entitlements, further entrenching their socio-economic hardships (Gunetilleke, 2008; Siddiqi, 2017). Institutional frameworks have also played a role in reinforcing the divide between formal and informal sectors. The legal framework of social security in Sri Lanka is built upon key legislations such as the Employees' Trust Fund (ETF) and the Public Service Pension Scheme. These programs are designed to ensure income security for formal sector employees. However, informal sector workers, including those in the plantation sector, are often excluded from such schemes due to the absence of formal employment contracts and the nature of their employment arrangements (De Silva & Athukorala, 2011; ILO, 2016).

The influence of international organizations such as the International Labor Organization (ILO) and the World Bank has prompted Sri Lanka to adopt more structured approaches to social security. Discussions on universal health coverage and contributory pension schemes for informal workers have emerged in recent years. However, the inclusion of plantation workers in these schemes has been irregular and remains incomplete (ILO, 2021; World Bank, 2019). Global frameworks such as the Decent Work Agenda and Social Protection Floors have been instrumental in highlighting the need for inclusive social protection, but local implementation has lagged due to resource constraints and policy fragmentation (ILO, 2006). Despite various reforms and welfare initiatives, tea estate workers remain one of the most vulnerable groups in Sri Lanka. Challenges such as inadequate representation in social protection programs, insufficient institutional support, and socio-political marginalization persist (Hewamanne, 2020; Jayawardena, 2010). Additionally, the socio-cultural isolation of estate communities and limited access to education and skill development opportunities have hindered upward socio-economic mobility (Herath, 2015). Empirical studies have highlighted that the benefits provided under existing programs, such as

Samurdhi and elderly pension schemes, fail to address the specific needs of plantation workers due to their unique socio-economic context (De Silva & Punchihewa, 2011; Perera, 2018).

Literature underscores the need for a comprehensive social security framework tailored to the specific challenges of tea estate workers. Effective social protection must surround dimensions such as income security, healthcare, housing, and education within an inclusive environment (ILO, 2016; UNICEF, 2023). A sustainable approach should also include legal reforms to bridge the gap between formal and informal sectors and foster greater collaboration between government bodies, estate administrators, and trade unions (Chandrabose & Sivapragasam, 2008). Studies such as those by Muthukumaran (2016) and Gunetilleke (2008) emphasize the importance of policy coordination and community engagement in designing and implementing inclusive social security systems. The contextual literature highlights the systemic challenges and historical exclusions that have shaped the current state of social security for tea estate workers in Sri Lanka. Addressing these issues requires an intersectional approach that considers socio-economic, legal, and institutional factors. By reviewing both the best global practices and local realities, policymakers can develop a more inclusive and equitable social security system that recognizes and addresses the specific vulnerabilities of tea estate workers.

4. Conclusion

This systematic literature review highlights the structural and cultural complexities affecting social security provision for Sri Lankan tea estate workers. Key determinants of social security including income security, health security, family and child support, protection against economic and social distress, social and economic justice, housing and education, and network assistance are often undermined by institutional and socio-economic challenges. While contributory schemes like the Employees' Provident Fund (EPF) and Employees' Trust Fund (ETF) theoretically offer financial security, many estate workers struggle to benefit from them due to unstable incomes, lack of documentation, and bureaucratic inefficiencies. Moreover, the geographical remoteness of estates exacerbates service delivery issues, with fragmented institutions government agencies, NGOs, and estate management operating in isolation.

The socio-economic, legal, institutional, cultural, political, technological, educational, and environmental barriers faced by tea estate workers in accessing social security can be understood through various theoretical lenses. These theories help explain structural inequalities, policy inefficiencies, and labor vulnerabilities, providing a comprehensive framework for addressing these challenges. The Labor Market Segmentation Theory (Doeringer & Piore, 1971) explains how labor markets are divided into primary (secure, well-paid jobs) and secondary (low-wage, insecure work) sectors. Tea estate workers, being in the secondary labor market, face low wages, job

insecurity, and poor living conditions, which prevent them from contributing to or benefiting from social security schemes. Their employment remains informal, seasonal, and lacks social mobility, limiting their ability to accumulate savings or qualify for contributory welfare programs. The Human Rights Framework (United Nations, 1948) asserts that access to social security is a fundamental right. However, weak enforcement of labor laws and limited legal awareness among estate workers violate their right to equal protection under labor policies. Since many tea estate workers do not have formal employment contracts, they are often excluded from statutory benefits such as pensions, health insurance, and unemployment support. According to Social Justice Theory (Rawls, 1971), this represents structural inequality, where the absence of legal safeguards perpetuates exploitation.

According to Social Protection Theory (Barr, 1998), welfare programs should provide universal access to healthcare, pensions, and unemployment benefits. However, institutional inefficiencies such as bureaucratic delays, corruption, and mismanagement hinder the delivery of social security benefits to estate workers. These workers often encounter lengthy approval processes, lack of transparency in fund distribution, and inadequate grievance mechanisms, preventing effective participation in social protection schemes. The Social Exclusion Theory (Silver, 1994) explains how oppressive labor relationships, caste-based discrimination, and hierarchical estate structures create distrust in formal security schemes. Tea estate workers, particularly those from ethnic minorities, have historically been excluded from national welfare systems. Marginalization Theory (Sen, 1999) further explains that cultural and social hierarchies reinforce discrimination, making workers hesitant to engage with government welfare programs due to historical neglect and social alienation.

Social Justice Theory (Rawls, 1971) argues that fairness in policy distribution is essential for social security. However, in Sri Lanka, political instability, inconsistent policies, and lack of prioritization for estate workers have resulted in fragmented welfare programs. Political leaders often focus on short-term welfare programs rather than sustainable social security solutions, making it difficult for estate workers to benefit from long-term pension schemes or healthcare reforms. The Human Capital Theory (Becker, 1964) suggests that investment in education and skills development enhances economic opportunities and social security access. However, tea estate workers face low literacy rates and language barriers, making them unaware of available welfare schemes. Without adequate education on financial literacy, pension benefits, and healthcare access, they are unable to navigate complex social security programs, leaving them disadvantaged compared to urban workers. The Life-Cycle Theory (Modigliani & Brumberg, 1954) explains how individuals save for future economic security. However, climate change-related seasonal unemployment and unpredictable weather patterns disrupt the income stability of

tea estate workers, making it impossible for them to contribute to long-term social security schemes. Many estate workers rely on daily wages, and when climate-related disasters such as droughts, floods, or landslides occur, they face sudden job losses without any financial protection. The barriers faced by tea estate workers align with multiple theoretical perspectives, demonstrating that their exclusion from social security systems is not just a policy failure but a structural issue embedded in economic, legal, cultural, and political frameworks. By incorporating these theoretical insights, Sri Lanka can develop a holistic and inclusive social security system tailored to the unique vulnerabilities of tea estate workers.

Despite these obstacles, the findings suggest that an inclusive approach to social security requires more than top-down policy reforms. Addressing the historical marginalization of estate workers particularly women and up-country Tamil communities necessitates culturally sensitive, multilingual outreach programs that build trust and encourage participation. Legal and policy reforms must focus on enforcement, transparency, and worker protections, ensuring that estate-based labor laws are effectively applied in remote settings. At the same time, community-driven interventions such as mobile registration clinics, financial literacy programs, and participatory decision-making models can enhance accessibility and engagement. Successful pilot programs in micro-insurance, health outreach, and cooperative-based pension models demonstrate that localized initiatives can complement national frameworks when properly implemented.

This review contributes to empirical and policy discussions on social security for marginalized workers. Empirically, it synthesizes diverse data from case studies and policy documents, revealing day-to-day barriers faced by tea estate workers. From a policy perspective, it identifies gaps in labor laws and welfare schemes, advocating for stronger enforcement mechanisms and culturally inclusive strategies. Practically, it underscores the importance of grassroots interventions, such as worker-led welfare programs and digital outreach, in overcoming bureaucratic hurdles.

However, this review has certain limitations. The reliance on English-language sources may have excluded valuable local research in Sinhala and Tamil, while historical perspectives on colonial-era labor structures may be underrepresented. Additionally, as this study is based on secondary data, it may inherit biases from the original research. Future research should prioritize primary data collection, engaging directly with workers across multiple estates to capture diverse lived experiences and policy implementation gaps. Longitudinal studies assessing the long-term impacts of targeted interventions such as mobile enrollment programs and micro-insurance schemes would provide valuable insights into sustainable solutions. Comparative studies of plantation-based economies in other countries could also inform best practices for Sri Lanka. Ultimately, a

collaborative, interdisciplinary approach is essential to building a more equitable and sustainable social security system for tea estate workers, ensuring that their rights and well-being are protected within Sri Lanka's evolving labor landscape.

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8. Appendices:

No	Article description	Country	Key Issues	Objectives	Theories	Methodology	Key findings	Gaps	1-5
1	Jayawardena, D. (2000). "The Social and Economic Impact of Tea Plantations in Sri Lanka." <i>Sri Lanka Journal of Social Sciences</i> , 26(1&2), 45-66.	Sri Lanka	Labor rights, economic inequality, environmental degradation	Assess the broader socioeconomic impact of tea plantations, living and working conditions of estate workers, social equity and economic opportunities	Dependency Theory, Social Stratification and class theory	Qualitative, historical review, case studies	Economic dependence, social inequality, poor living conditions, impact on local communities	Long term economic diversification, detailed policy recommendations	5
2	Jayatilake, A. C. & Fonseka, P. (2010). <i>Health Status of the Plantation Sector in Sri Lanka</i> . Ceylon Medical Journal, 55(2), 63-64.	Sri Lanka	Healthcare access, environmental health hazards, inadequate health infrastructure	Assess overall health status of individuals, main health challenges, recommendations for improving healthcare delivery	Public health framework, Social determinants of health, epidemiological theory	Quantitative, health surveys, comparative analysis - with general SL population	Poor health outcomes, limited access to healthcare, occupational health risks, child health and malnutrition	Longitudinal data, policy recommendations - not detailed enough	5
3	Herath, D. (2008). <i>Education and Socio-Economic Mobility in Plantation Workers in Sri Lanka</i> . Journal of Educational Research, 12(1), 1-10.	Sri Lanka	Persistent inequality, low enrolment and retention rates - schooling	Impact of education, barriers to educational role of policy interventions	Human Capital, Socioeconomic mobility, structural barriers	Quantitative, surveys and interviews, comparative analysis - with non plantation and rural	Limited access to quality education, socioeconomic barriers, educational attainment and mobility, gender disparities	Limited longitudinal data, policy impact assessment	5
4	Muthukumar, M. (2016). <i>Housing Conditions of Tea Plantation Workers in Sri Lanka</i> . International Journal of Housing Policy, 16(2), 246-263.	Sri Lanka	Lack of investment in housing, intergenerational poverty	Document and analyse current state of housing, explore the links between inadequate housing and broader socioeconomic conditions, advocate policy changes	Housing and social well-being, Structural inequality, social determinants of health	Field research, comparative analysis - across different estates, quantitative	Inadequate housing infrastructure, impact on health and well-being, government and estate management's role	Limited focus on policy evaluation, lack of comparative context	5
5	Ramakrishnan, C. (2000). <i>Educational Problems of Plantation Workers in Sri Lanka</i> . Economic and Political Weekly, 35(51), 4497-4502.	Sri Lanka	Neglect by policymakers, gender disparities	Identify the barriers to education, analyse the impact of these barriers, need for policy reforms	Educational inequality, Social mobility and education, Structural poverty	Field research, case studies, comparative analysis - with other marginalized and rural communities	Limited educational access, impact of poverty, language barriers - lack of Tamil medium schools, intergenerational cycle of poverty	Limited focus on Government policy, insufficient data on long term impact	5
6	Herath, H. M. A. (2015). Socioeconomic Status and Quality of Life of Tea Plantation Workers in Sri Lanka. <i>International Journal of Social Science and Humanity</i> , 5(1), 1-7.	Sri Lanka	Persistent poverty among tea estate workers and structural inequalities that has led to marginalization of the plantation workers.	Assess socioeconomic status, evaluate quality of life	Socioeconomic and Quality of life theories, Human Development Theory	Quantitative - surveys, Descriptive statistics, Cross-sectional study	Low socioeconomic status of tea plantation workers, low socioeconomic status of the workers significantly affects their quality of life, economic and social challenges - workers facing economic exploitation and social exclusion.	Lack of longitudinal data and need for policy focus.	5
7	Siddiqi, D. (2017). Social Protection for Informal Workers: Insights from the Tea Sector in India and Sri Lanka. <i>Journal of Asian Social Development</i> , 12(3), 1-24.	Bangladesh / USA	Informal labor marginalization, ineffectiveness of social programs - due to administrative challenges and lack of targeted support.	Examine social protection mechanisms, highlight gendered experiences	Social Protection Theory, Gender and Labor Theory, Precarity and Informality	Comparative case study, Qualitative, Policy analysis	Informal workers in India and SL receive minimal social protection, Gender disparities in access to social protection, Variations across countries - SL has more developed formal mechanisms for worker protection compared to India.	Need for quantitative data, lack of longitudinal perspective - research does not track changes over time.	5
8	Gunetilleke, G., et al. (2008). <i>The Estate Workers' Dilemma: Unpacking the Myth of a Generous Safety Net</i> . <i>South Asia Economic Journal</i> , 9(2), 343-368.	Sri Lanka	Marginalization of estate workers, underfunded welfare programs leading to discrepancies in service delivery.	Evaluate the actual safety net and effectiveness, highlight systemic failures in the implementation particularly focusing on health, housing and pension schemes.	Welfare State Theory, Social Protection and Labor Theory, Political economy of Social Welfare	Mixed methods, Policy review, Field research	Debunks the widespread belief that estate workers in SL enjoy a comprehensive social safety net, Health and housing gap, pensions and social security - estate workers are largely excluded from comprehensive pension schemes.	Lack of comparative data, limited longitudinal analysis	5
9	Perera, M., & Wickramasinghe, A. (2016). <i>Social Protection and the Vulnerability of Plantation Workers in Sri Lanka</i> . <i>Labour Studies Journal</i> , 41(2), 135-155.	Sri Lanka	Vulnerability of informal workers, employer reliance	Assess the vulnerability of the workers, evaluate social protection programs	Social Protection Theory, Vulnerability Framework, Labor rights and welfare state theory	Qualitative and Quantitative, Case studies, Field surveys	Inadequate social protection, limited access, dependency on employers, gender disparities	Long term impact analysis, comparative analysis - none with other informal labor sectors, could have benefited from a more gender focused analysis.	5
10	Perera, M. (2018). <i>Cultural Factors and Social Protection in the Tea Estate Sector: An Analysis</i> . Sri Lanka Journal of Social Sciences.	Sri Lanka	Marginalization of estate workers, gender disparities, integration of social protection with cultural context	Analyse the impact of cultural factors on the access and effectiveness of social protection, to explore the role of estate management in mediating access to social protection, to assess the effectiveness of current social protection programs in the plantation sector.	Cultural Theory, Social Protection Theory, Development Economics	Qualitative, Case study approach, Policy review	Cultural barriers to access social protection, inequalities in social protection, the role of estate management - often limiting workers access to broadened state programs	Lack of quantitative data, limited geographical focus, policy recommendations	5
11	Hewamann, S. (2020). <i>Marginalization and Social Exclusion: The Role of Culture in Social Security for Tea Estate Workers in Sri Lanka</i> . Social Science & Medicine.	Sri Lanka	Cultural and historical legacies, factors like caste, ethnicity, and gender intersecting to create compound barriers for estate workers.	To examine the role of cultural factors in the social exclusion of tea estate workers, to evaluate the accessibility of social security programs for marginalized groups, to identify pathways of improving social security coverage in marginalized communities.	Marginalization and social exclusion theories, Cultural theory, Social security and welfare theory	Qualitative case studies, ethnographic research, focus group	Cultural practices reinforce marginalization, limited awareness of rights, structural barriers, gender disparities.	Limited quantitative data, focus on one sector, policy solutions.	5

Research scope	Theory/Concept	Author/Year	Principles	Relevance to Economics	How it is used for conceptual model/framework	Relevance to my research	Gaps
The Social and Economic Impact of Tea Plantations in Sri Lanka	Dependency Theory	Raul Prebisch (1950), Andre Gunder Frank (1967), Immanuel Wallerstein (1974)	Power asymmetries, external dependence, exploitation, class, status, power, social classes, capitalist production.	Asymmetric power relations in the global economy. Addresses economic disparities, economic structures and class relations.	Focuses on variables such as economic dependency, social hierarchies, class based inequalities, living standards and access to social services, employment practices and labor rights.	Provides insights into the global value chain's influence on worker welfare in developing economies like SL. To understand the systemic inequality faced by plantation workers. Class based disparities that persist in tea industry.	Limited insights into power dynamics and policy making within developing countries. Insufficient attention to intersectionality. Limited explanations for issues related to informal economy.
	Social Stratification	Max Weber (1922), Kingsley Davis & Wilbert Moore (1945)					
	Class theory	Karl Marx (1848), Friedrich Engels & Antonio Gramsci (1926)					
Health Status of the Plantation Sector in Sri Lanka	Public health framework	Geoffrey Rose (1992)	Preventive measures, health promotion, community level interventions, income, education, employment, social support, living conditions, distribution and determinants of diseases	By addressing health disparities can reduce long-term healthcare costs and promote greater economic productivity. Economic policies and structures significantly influence the social determinants of health. Identification of cost effective interventions by understanding the spread and causes of diseases.	Healthcare accessibility, socioeconomic status, housing and living conditions, disease incidence and prevalence rates, health education and awareness are the key variables that were focused	Understanding the health status of tea estate workers in SL and applying the public health framework. To examine the relationship between the socioeconomic status of tea estate workers and their health. In assessing the health status of the tea estate workers, can be applied to map disease prevalence and identify high risk factors.	Focus more on preventive measures without adequately addressing the broader socioeconomic inequalities that contribute to health disparities. The complexity of multiple interacting determinants can complicate policy planning which is crucial in settings like tea estates. Traditional focus on biological and environmental causes, and neglecting the importance of socio-political and economic structures that lead to health disparities.
	Social determinants of health	Michael Marmot (2005)					
	Epidemiological theory	John Snow (1854)					
Education and Socio-Economic Mobility in Plantation Sector in Sri Lanka	Human Capital	Gary Becker (1964)	Education, training, health, occupation, income, discrimination, historical disadvantage, institutional limitations	Underlines the economic value of education and training in increasing labor productivity. Critical in understanding income distribution, poverty alleviation, and policy making. Structural barriers hinder the efficient functioning of labor markets and limit opportunities for marginalized populations.	Key variables include: access to quality of education, economic returns on education, household economic background, employment and job roles, institutional and policy barriers.	Can assess whether education contributes to the improved economic conditions of tea estate workers. Whether educational achievements have facilitated upward mobility among tea estate workers. To understand the root causes of limited socioeconomic mobility among tea estate workers.	Often neglects the broader structural and institutional factors. Focusing solely on individual education may not fully capture the impact of institutional and other barriers. Lacks focus on the cultural and structural impediments to mobility. Lacks actionable solutions to overcome structural barriers.
	Socioeconomic mobility	Eric Olin Wright (1997), John Goldthorpe (1980)					
	Structural barriers	Pierre Bourdieu (1984)					
Social Protection for Informal Workers: Insights from the Tea Sector in India and Sri Lanka	Social Protection Theory	Amartha Sen (1999), Devereux & Sabates Wheeler (2004)	Pensions, healthcare, unemployment benefits, support programs for low income workers, formal and informal social protection mechanisms, labor market, gender roles, job security, social benefits, legal protections.	Addresses poverty alleviation and income redistribution, ensuring economic stability and reducing social inequalities. Gender disparities in labor markets, wages, and working conditions. Highlights the disparities in labor markets, the informalization of work, the need for policy interventions to protect vulnerable workers.	Multiple variables such as social security access, gender disparities, job security and contracts, healthcare and benefits, legal protection.	Crucial for evaluating the social and economic safety nets available to informal workers in tea sector in SL. To explore unique challenges faced by women in the tea sector, can provide targeted recommendations for gender equitable policy reforms. Economic insecurity and lack of protections faced by tea sector workers in SL.	Often focus on formal employment leaving out the informal sector. Sometimes overlooks intersectional factors like class and ethnicity that influence gender disparities. Often focuses on identifying vulnerabilities without adequately addressing structural barriers for formalization.
	Gender and Labor Theory	John Acker (1990), Nancy Fraser (1997)					
	Precarity and Informality	Guy Standing (2011), Robert Castel (2003)					
Marginalization and Social Exclusion: The Role of Culture in Social Security for Tea Estate Workers in Sri Lanka	Marginalization and social exclusion theories	Amartha Sen (2000), Ruth Levitas (1996)	Institutional and social barriers, cultural practices, norms, values, social relations and interactions, social policies, welfare programs	It highlights inequalities in the labor market and social security systems. Highlights the role of culture in shaping economic behaviour and policy outcomes. Role of state policies in redistributing resources and reducing economic risks. Crucial for understanding the design and impact of social welfare programs.	Key variables are: access to social services, economic and political participation, recognition and representation, cultural norms and beliefs, identity and social integration, welfare program access and coverage, financial security, policy framework.	To understand the exclusionary practices faced by tea estate workers in SL. To explore the cultural dynamics that contribute to exclusion and marginalization of estate workers. To analyse the adequacy of social security provisions for marginalized tea estate workers.	May not fully address how informal economies and labor dynamics contribute to exclusion. May lack clarity in addressing intersections of culture with economic disparities. Not adequately address the challenges of extending social protections to informal workers.
	Cultural theory	Mary Douglas (1970), Pierre Bourdieu (1986)					
	Social security and welfare theory	T.H. Marshall (1950), Esping Andersen (1990)					

A	B	C
No	Article description	1-5
1	Agresti, A. (2013). "Categorical Data Analysis." John Wiley & Sons.	5
2	Adams, J. S. (1963). <i>Toward an Understanding of Inequity</i> . Journal of Abnormal and Social Psychology.	5
3	Ahmed, S., & Islam, M. (2019). <i>Labour Rights in Bangladesh's Tea Estates: Challenges and Prospects</i> . Dhaka: University Press Limited.	5
4	ADB (2019). "Social Protection Indicators: Asia and the Pacific."	5
5	Agresti, A. (2018). <i>An Introduction to Categorical Data Analysis</i> (3rd ed.). Wiley.	5
6	Agricultural and Agrarian Insurance Board. (2020). <i>Farmers' Pension Scheme: Annual Performance Report</i> . Colombo: Ministry of Agriculture.	5
7	Alonso-Villar, O., Del Rio, C., & Gradin, C. (2012). "The Extent of Occupational Segregation in the United States: Differences by Race, Ethnicity, and Gender." <i>Industrial Relations: A Journal of Economy and Society</i> , 51(2), 179-212.	5
8	American Psychological Association. (2010). <i>Publication Manual of the American Psychological Association</i> . Washington, D.C.: APA.	5
9	Angrist, J. D., & Pischke, J.-S. (2008). <i>Mostly Harmless Econometrics: An Empiricist's Companion</i> . Princeton University Press.	5
10	Armendáriz, B., & Morduch, J. (2010). <i>The Economics of Microfinance</i> . Cambridge, MA: MIT Press.	5
11	Asian Development Bank (ADB). (2020). <i>Sri Lanka: Strengthening the Social Protection System</i> . Manila: ADB.	5
12	Atkinson, A. B. (2015). <i>Inequality: What Can Be Done?</i> . Cambridge: Harvard University Press.	5
13	Baicker, K., Taubman, S. L., Allen, H. L., Bernstein, M., Gruber, J. H., Newhouse, J. P., ... & Finkelstein, A. (2013). "The Oregon Experiment—Effects of Medicaid on Clinical Outcomes." <i>New England Journal of Medicine</i> , 368(18), 1713-1722.	5
14	Baily, M. N. (1978). <i>Some Aspects of Optimal Unemployment Insurance</i> . Journal of Public Economics, 10(3), 379-402.	5
15	Balachandran, G. (1993). <i>History and Sociology of South Asia's Plantation Labour: Economic, Social and Political Perspectives</i> . Journal of Historical Studies, 12(1), 83-104.	5
16	Barr, N., & Diamond, P. (2006). <i>The economics of pensions</i> . Oxford Review of Economic Policy	5
17	Barr, N., & Diamond, P. (2008). <i>Reforming Pensions: Principles and Policy Choices</i> . Oxford: Oxford University Press.	5
18	Behrendt, C., & Hagemeyer, K. (2009). <i>Can Low-Income Countries Afford Basic Social Protection? First Results of a Modeling Exercise</i> . International Social Security Review, 62(1), 5-28.	5
19	Bitler, M. P., Hoynes, H. W., & Domina, T. (2017). "Experimental Evidence on Distributional Effects of Head Start." <i>American Economic Journal: Economic Policy</i> , 9(4), 127-158.	5
20	Biyanwala, S. J. (2010). <i>The Labour Movement in the Global South: Trade Unions in Sri Lanka</i> . New York, NY: Routledge.	5
21	Blanchard, O., & Leigh, D. (2013). "Growth Forecast Errors and Fiscal Multipliers." <i>American Economic Review</i> , 103(3), 117-120.	5
22	Blau, D., & Currie, J. (2006). <i>Pre-School, Day Care, and After-School Care: Who's Minding the Kids?</i> In Handbook of the Economics of Education (Vol. 2, pp. 1163-1278). Elsevier.	5
23	Bhowmik, S. (2011). <i>Industry, Labour, and Society</i> . Routledge India.	5
159	Xu, K., Evans, D. B., & Carrin, G. (2001). <i>Designing Health Financing Systems to Reduce Catastrophic Health Expenditure</i> . Bulletin of the World Health Organization, 85(9), 671-680.	5
160	Asian Development Bank (ADB). (2021). <i>Digital Connectivity in South Asia: Opportunities & Challenges</i> .	4
161	Atkinson, A. B. (1995). <i>On Targeting Social Security: Theory and Western Experience with Family Benefits</i> . In D. Van de Walle & K. Nead (Eds.), <i>Public Spending and the Poor: Theory and Evidence</i> (pp. 25-68). Baltimore: Johns Hopkins University Press.	4
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